IOWA DEPARTMENT OF NATURAL RESOURCES





CONSTRUCTION DOCUMENTS FOR

PRAIRIE ROSE, LAKE MANAWA & VIKING LAKE STATE PARKS
VAULT LATRINE

SHELBY, POTTAWATTAMIE & MONTGOMERY COUNTIES

PROJECT # 13-04-83-02

PRAIRIE ROSE PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF INSTALLING A VAULT LATRINE IN THE WEST CAMPGROUND. THIS INCLUDES ALL EARTHWORK, SUPPLYING AND INSTALLING THE NEW FACILITY AS WELL AS REMOVING THE EXISTING BUILDING AND CONSTRUCTION A NEW CAMPSITE IN ITS PLACE AND INCIDENTAL WORK AS REQUIRED BY THE DNR INSPECTOR.

LAKE MANAWA PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF INSTALLING A VAULT LATRINE NEW SIDEWALK FOR ACCESS TO CXT STRUCTURE FROM PARKING LOT AND A NEW HANDICAP PARKING STALL.

VIKING LAKE PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF INSTALLING A VAULT LATRINE AT THE END OF THE LOOP NEAR THE LOWER PICNIC AREA. THIS INCLUDES ALL EARTHWORK, SUPPLYING AND INSTALLING THE NEW FACILITY AS WELL AS REMOVING THE EXISTING BUILDING AND INCIDENTAL WORK AS REQUIRED BY THE DINE INSPECTOR.

	DIRECTORY							
PRAIRIE ROSE PROJECT MANAGER LAKE		LAKE MAN	E MANAWA PROJECT MANAGER		VIKING LAKE PROJECT MANAGER		CONSTRUCTION INSPECTOR	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	
ADDRESS	502 EAST 9TH STREET	ADDRESS	502 EAST 9TH STREET	ADDRESS	502 EAST 9TH STREET	ADDRESS	502 EAST 9TH STREET	
CITY,STATE,ZIP	DES MOINES, IA, 50319	CITY,STATE,ZIP	DES MOINES, IA, 50319	CITY,STATE,ZIP	DES MOINES, IA, 50319	CITY,STATE,ZIP	DES MOINES, IA, 50319	
CONTACT	MANDI LU ALDRICH	CONTACT	MANDI LU ALDRICH	CONTACT	BRETT JOHNSON	CONTACT	MARK JOHNSON	
TELEPHONE	515-205-1698	TELEPHONE	515-205-1698	TELEPHONE	515-250-3711	TELEPHONE	319-250-3713	
FAX	515-281-8685	FAX	515-281-8685	FAX	515-281-8685	FAX	-	
EMAIL	Mandi.Aldrich@dnr.iowa.gov	EMAIL	Mandi.Aldrich@dnr.iowa.gov	EMAIL	Brett.Johnson@dnr.iowa.gov	EMAIL	Mark.Johnson@dnr.iowa.gov	

	MINIMUM MANAGER	
SHIRITINE.	MANDI L ALDRICH	William .
International Constitution of the Constitution	ΜΔΝΙΟΙΙ	7
SEN SEN	MANDI L. ' ALDRICH	ZE
	14439	P
The state of the s	Min. AWO	P

I hereby certify that this engineering document was prepare by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the

Mandi L. Aldrich, Tova Reg. No. 14439

y license renewal date is December 31, 20 🚣

ges or sheets covered by this seal: _

s seal: ________

AUTHORIZATION - PARKS WILDLIFE FISHERIES LAW ENFORCEMENT FORESTRY DATE OI/22/13 ENGINEERING BUREAU CHIEF DATE	AUTHORIZATION TO BID
	Gold k 01/22/13

	SHEET INDEX
2	COVER SHEET QUANTITIES & NOTES
	PRAIRIE ROSE STATE PARK
3	PROJECT LOCATION MAPS
4	OVERALL SITE PLAN
5	DEMOLITION PLAN
6	SITE PLAN
7	GENERAL DETAILS
8	GENERAL DETAILS
	LAKE MANAWA STATE PARK
9	PROJECT LOCATION MAPS
10	SITE PLAN
11	SIDEWALK DETAILS & NOTES
12	HANDICAP PARKING DETAILS
	VIKING LAKE STATE PARK
13	PROJECT LOCATION MAPS
14	DEMOLITION PLAN
15	SITE PLAN
16	DOUBLE CASCADIAN DETAILS
17	DOUBLE CASCADIAN DETAILS
18	DOUBLE CASCADIAN DETAILS
19	SINGLE CASCADIAN DETAILS
20	SINGLE CASCADIAN DETAILS
21	SINGLE CASCADIAN DETAILS VAULT SOLAR DETAIL
23	DETECTABLE PANEL DETAILS
	x *
1	
	=

13-04-83-02

TIEM NO.	ESTIMATED PROJECT QUANTITIES DIVISION 1: PRAIRIE ROSE STATE PARK - DIVISION 2: LAKE MANAWA STATE PARK - DIVISION 3: VIKING LAKE STATE PARK -				E STATE PARK - VAULT STATE PARK - VAULT STATE PARK - VAULT	LATRINE LATRINE LATRINE	
2 CLEARING AND GRUBBING	ITEM NO.	ITEM	UNIT	DIVISION I	DIVISION 2	DIVISION 3	TOTAL
3 SITE WORK	1	DEMOLITION	LS	0.5		0.5	1
4	2	CLEARING AND GRUBBING	LS	0.5		0.5	1
5 CXT DOUBLE CASCADIAN VAULT STRUCTURE EACH 1 1 6 CLASS "A" CRUSHED STONE TONS 16 2 18 7 SIDEWALK, PCC, 5" SY 8.5 32 5.6 46 8 WATER SERVICE, 1" PE LF 180 180 9 YARD HYDRANT EACH 1 1 10 DETECTABLE WARNING PANEL SF 10 10 20 11 EARTHWORK, CLASS 10 EXCAVATION CY 24.1 24 24 12 ENGINEERING FABRIC SY 120.7 121 13 MACADAM TONS 24 24 14 EROSION CONTROL LF 177 36 213 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 1 1 17 SIGNING EACH 1 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS	3	SITE WORK	LS	0.33	0.33	0.33	1
6 CLASS "A" CRUSHED STONE TONS 16 2 18 7 SIDEWALK, PCC, 5" SY 8.5 32 5.6 46 8 WATER SERVICE, 1" PE LF 180 180 9 YARD HYDRANT EACH 1 1 1 10 DETECTABLE WARNING PANEL SF 10 10 20 11 EARTHWORK, CLASS 10 EXCAVATION CY 24.1 24 12 ENGINEERING FABRIC SY 120.7 121 13 MACADAM TONS 24 24 14 EROSION CONTROL LF 177 36 213 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 17 SIGNING EACH 1 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 2 19 SOLAR TOWER LS 1 1	4	CXT SINGLE CASCADIAN RIGHT HAND VAULT STRUCTURE	EACH		1	1	2
7 SIDEWALK, PCC, 5" SY 8.5 32 5.6 46 8 WATER SERVICE, 1" PE LF 180 180 9 YARD HYDRANT EACH 1 1 10 DETECTABLE WARNING PANEL SF 10 10 20 11 EARTHWORK, CLASS 10 EXCAVATION CY 24.1 24 12 ENGINEERING FABRIC SY 120.7 121 13 MACADAM TONS 24 24 14 EROSION CONTROL LF 177 36 213 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 17 SIGNING EACH 1 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 2 19 SOLAR TOWER LS 1 1 1	5		EACH	1			1
8 WATER SERVICE, 1" PE LF 180 180 9 YARD HYDRANT EACH 1 1 10 DETECTABLE WARNING PANEL SF 10 10 20 11 EARTHWORK, CLASS 10 EXCAVATION CY 24.1 24 12 ENGINEERING FABRIC SY 120.7 121 13 MACADAM TONS 24 24 14 EROSION CONTROL LF 177 36 213 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 17 SIGNING EACH 1 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 2 19 SOLAR TOWER LS 1 1 1	6	CLASS "A" CRUSHED STONE	TONS	16		2	
9 YARD HYDRANT EACH 1 1 10 DETECTABLE WARNING PANEL SF 10 10 20 11 EARTHWORK, CLASS 10 EXCAVATION CY 24.1 24 12 ENGINEERING FABRIC SY 120.7 121 13 MACADAM TONS 24 24 14 EROSION CONTROL LF 177 36 213 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 17 SIGNING EACH 1 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 2 19 SOLAR TOWER LS 1 1 1	7	SIDEWALK, PCC, 5"	SY	8.5	32	5.6	46
10 DETECTABLE WARNING PANEL SF 10 10 20 11 EARTHWORK, CLASS 10 EXCAVATION CY 24.1 24 12 ENGINEERING FABRIC SY 120.7 121 13 MACADAM TONS 24 24 14 EROSION CONTROL LF 177 36 213 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 17 SIGNING EACH 1 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 2 19 SOLAR TOWER LS 1 1 1	8	WATER SERVICE, 1" PE	LF			180	180
11 EARTHWORK, CLASS 10 EXCAVATION CY 24.1 24 12 ENGINEERING FABRIC SY 120.7 121 13 MACADAM TONS 24 24 14 EROSION CONTROL LF 177 36 213 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 17 SIGNING EACH 1 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 2 19 SOLAR TOWER LS 1 1 1	9	YARD HYDRANT	EACH			1	1
12 ENGINEERING FABRIC SY 120.7 121 13 MACADAM TONS 24 24 14 EROSION CONTROL LF 177 36 213 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 17 SIGNING EACH 1 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 2 19 SOLAR TOWER LS 1 1	10	DETECTABLE WARNING PANEL	SF	10		10	20
13 MACADAM TONS 24 24 14 EROSION CONTROL LF 177 36 213 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 17 SIGNING EACH 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 19 SOLAR TOWER LS 1 1	11	EARTHWORK, CLASS 10 EXCAVATION	CY	24.1			24
14 EROSION CONTROL 15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 17 SIGNING 18 PRECAST CONCRETE PARKING WHEEL STOPS 19 SOLAR TOWER 11 1 1	12	ENGINEERING FABRIC	SY	120.7			121
15 PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT STA 27 27 16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 17 SIGNING EACH 1 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 19 SOLAR TOWER LS 1 1	13	MACADAM	TONS	24			24
16 PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED EACH 11 11 11 11 11 11 11 11 11 11 11 11 11	14	EROSION CONTROL	LF	177		36	213
17 SIGNING EACH 1 1 18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 19 SOLAR TOWER LS 1 1	15	PAINTED PAVEMENT MARK, WATERBORNE/SOLVENT	STA		27		27
18 PRECAST CONCRETE PARKING WHEEL STOPS EACH 2 2 19 SOLAR TOWER LS 1 1	16	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH		11		11
19 SOLAR TOWER LS 1 1	17	SIGNING	EACH		1		1
	18	PRECAST CONCRETE PARKING WHEEL STOPS	EACH		2		2
20 CONCRETE BOLLARD EACH 1 1	19	SOLAR TOWER	LS			1	11
	20	CONCRETE BOLLARD	EACH	1			1

ESTIMATE REFERENCE INFORMATION

> 1		
ark,	ITEM NO.	DESCRIPTION
rare F.	1	DEMOLITION A. Includes the removal and disposal of the existing building, sidewalk, granular base and hydrant (salvage if in good working order).
e Rose S		B. The contractor shall ensure that all utilities are disconnected prior to demolition. C. Disposal is the responsibility of the contractor. D. Contractor is to restore the demolition areas, grade the proposed site according to the design drawings and seed, fertilizer and mulch all disturbed areas.
rrairi	2	CLEARING AND GRUBBING A. Disposal is the responsibility of the contractor.
U4-03-UZ,	3	SITE WORK A. Site restoration is considered incidental and shall include seed, fertilizer and mulch on all disturbed areas as directed by the DNR inspector. B. Contractor is to grade and shape the latrine and camp pad sites as detailed in the plans.
\SHELB1\13=	4 5	CXT SINGLE CASCADIAN RIGHT HAND VAULT STRUCTURE CXT DOUBLE CASCADIAN VAULT STRUCTURE A. Contractor will provide and install structure by the plans and Engineers specifications. C. Excavation and backfill for the installation of structure to be considered incidental. D. Bedding material is considered incidental.
SACLIVE	6	CLASS "A" CRUSHED STONE A. The sidewalk is to be set on a 6 inch base of Class "A" Stone. B. Campsite will have a 2 inch top course.
R:NFRUJEUI	7	SIDEWALK, PCC, 5" A. Contraction joints shall be sawcut at 5 foot maximum spacing to a depth of 1 1/4". Expansion joints shall be installed along the front of the building between the sidewalk and the building and between the sidewalks and the existing roadway. B. Curb cut is considered incidenal. C. Excavation for sidewalk construction is considered incidental.
or1c	8	WATER SERVICE, 1" PE A. Includes connection to existing service line.
/25/2013 mai	11	EARTHWORK, CLASS 10 EXCAVATION A. Remove existing topsoil to an average depth of 6 inch. B. Material to be used as fill where needed. C. Sod to stripped in areas where fill is placed. D. Dispose of any waste material as directed by the DNR Inspector. E. Place top soil in those areas outside of the new camp pad. Seed, fertilizer and mulch on all disturbed areas as directed by the DNR inspector.
_	12	ENGINEERING FABRIC A. Place under Macadam base course for campsite.
. 0.3	13	MACADAM A. Place a 4 inch base course over the engineering fabric for the campsite.

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
	EROSION CONTROL A. Filter sock shall be installed as detailed to prevent sediment from exiting the project site and shall remain in place and be maintained until the site is stabilized.
	PRECAST CONCRETE PARKING WHEEL STOPS A. Wheel Stops shall be Barco products #WHLSTP/CG or equivalent. B. Wheel stops shall be tied to the ashphalt via metal pins.
	SOLAR TOWER Bid item includes furnishing and installing a 16' tall, 8 inch diameter wooden telephone pole, 70 linear feet of bored conduit, 20 linear feet of additional conduit on the pole and building, 95' of electrical line, Sunwize Solar Module side of pole mount, Part # 007986, 2 band clamps. The solar equipement is included with the CXT Single Cascadian Right Hand Vault Structure bid item.

GENERAL NOTES

- A. The contractor shall notify the following two weeks prior to demolition/construction: a. District Inspector: Mark Johnson (515) 250-3713
- B. The contractor shall be responsible for any damage to existing facilities resulting from their negligence, or that of a subcontractor, and said repairs shall be approved by the owner.
- C. All work shall conform to and be preformed in accordance with all applicable codes and ordinances.
- The contractor is responsible for providing waste area or disposal for excess material (excavated material, concrete, or other) which is not desirable to be incorporated into the work involved on this project. No material shall be disposed of on site, unless specifically stated in the plans or approved by the DNR Inspector.
- All holes resulting from operations of the contractor, including removal of guardrail posts, fence posts, utility poles or piers, shall be filled and consolidated to finish grade as directed by the Engineer to prevent future settlement. The voids shall be filled as soon as practical preferably the day created and not later than the following day. Any portion of the right of way or project limits (including borrow areas and operation sites) disturbed by any such operations shall be restored to an applicable condition. This operation shall be considered incidental to other bid items in the project.
- F. The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features of the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.
- G. The contractor shall shape graded area to maintain surface drainage. All elevations shown are to finish grade.
- H. Topsoil shall be spread to a minimum thickness of 6 inches on all disturbed unpaved areas.
- I. The contractor shall seed, fertilize and mulch all disturbed areas.
- J. Backfill to the top of all rock or paved surfaces.

L

IOWA DEPARTMENT OF
NATURAL RESOURCES
ENGINERING SERVICES - WALLACE BUILING
502 E. 9TH ST., DES MONES, IA 50319-0034



ARING LAKE STATE PAR

NOTES

∞୪

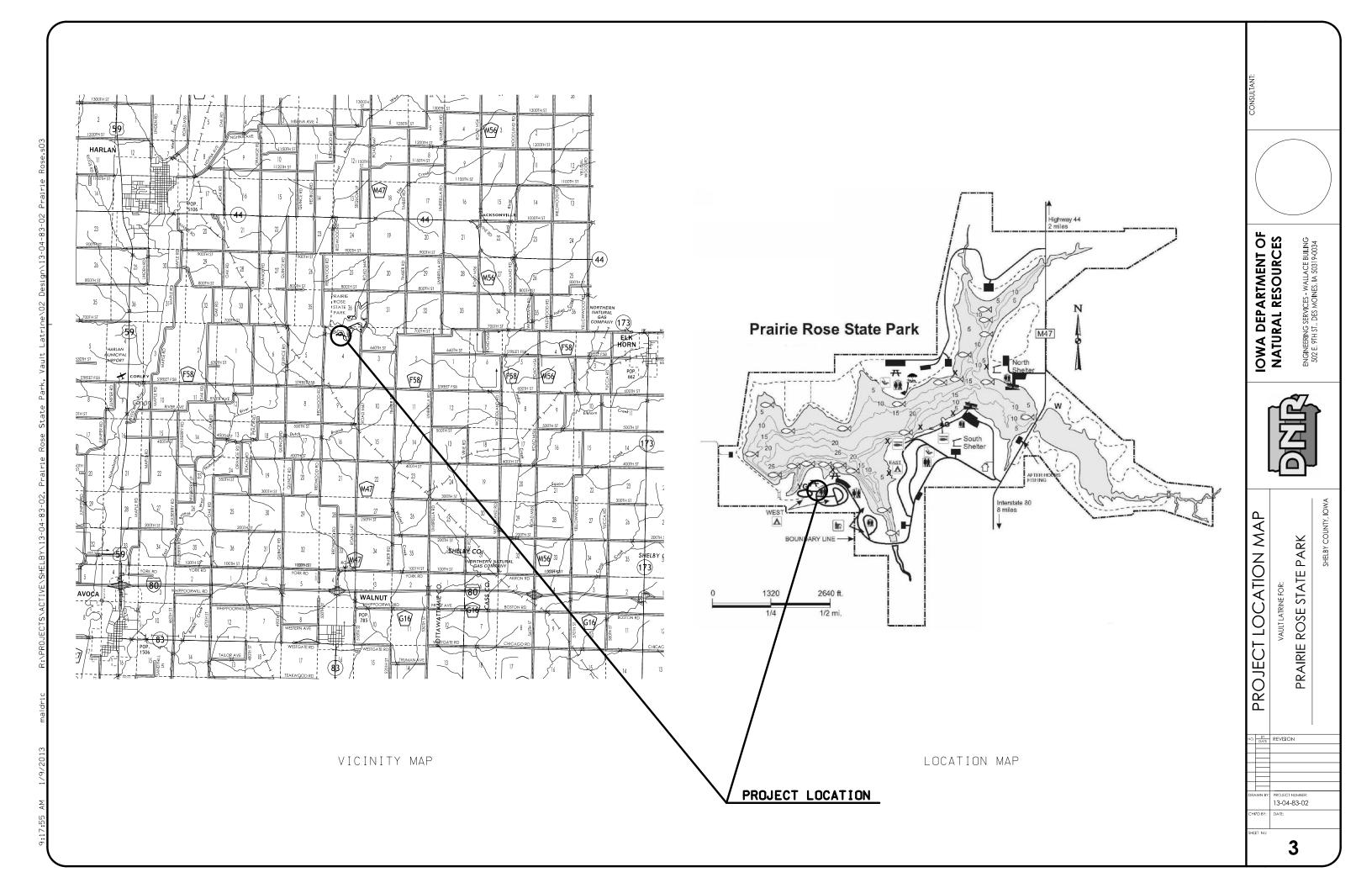
QUANTITIES

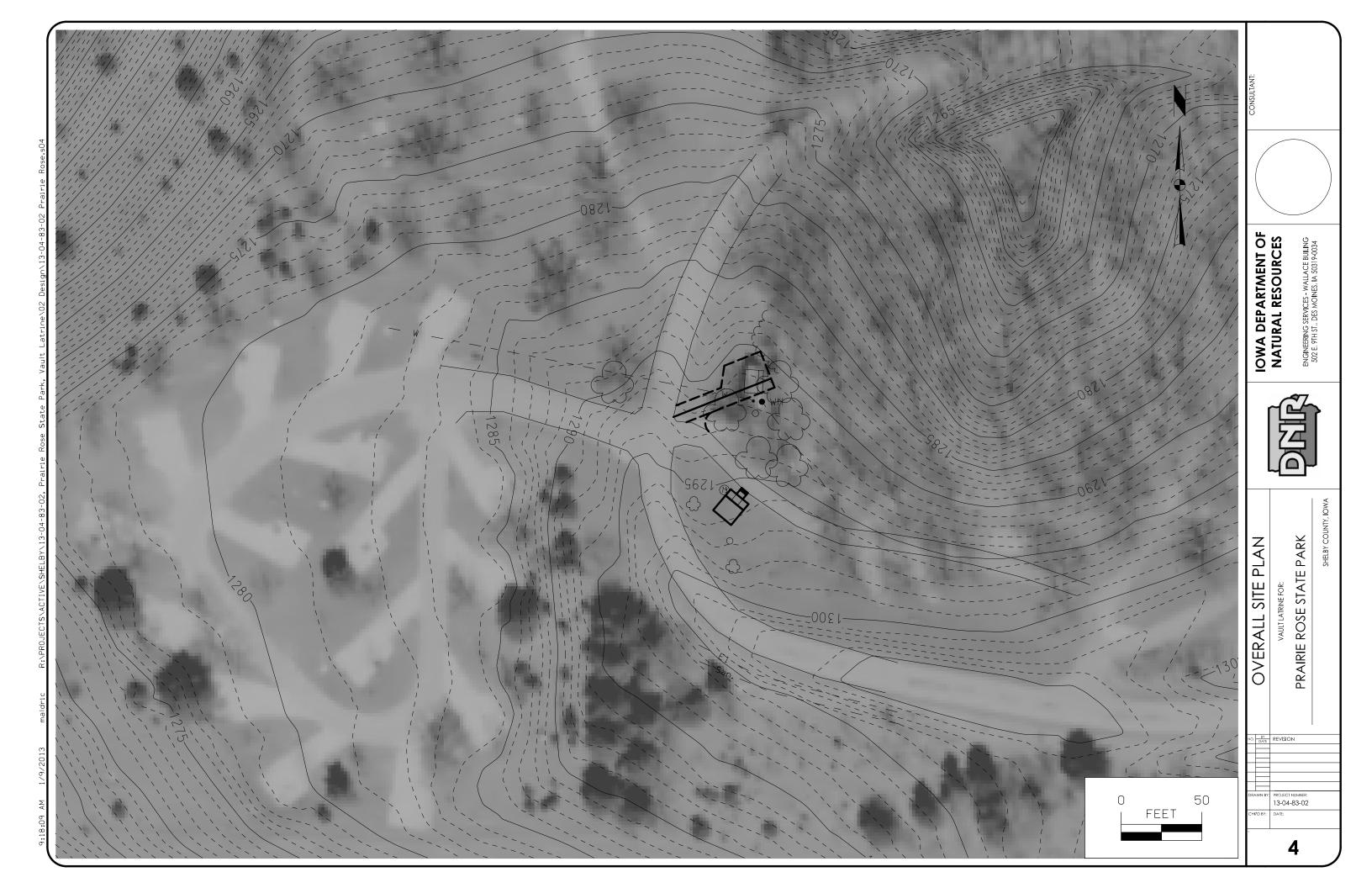
VAULT LATRINES FOR:

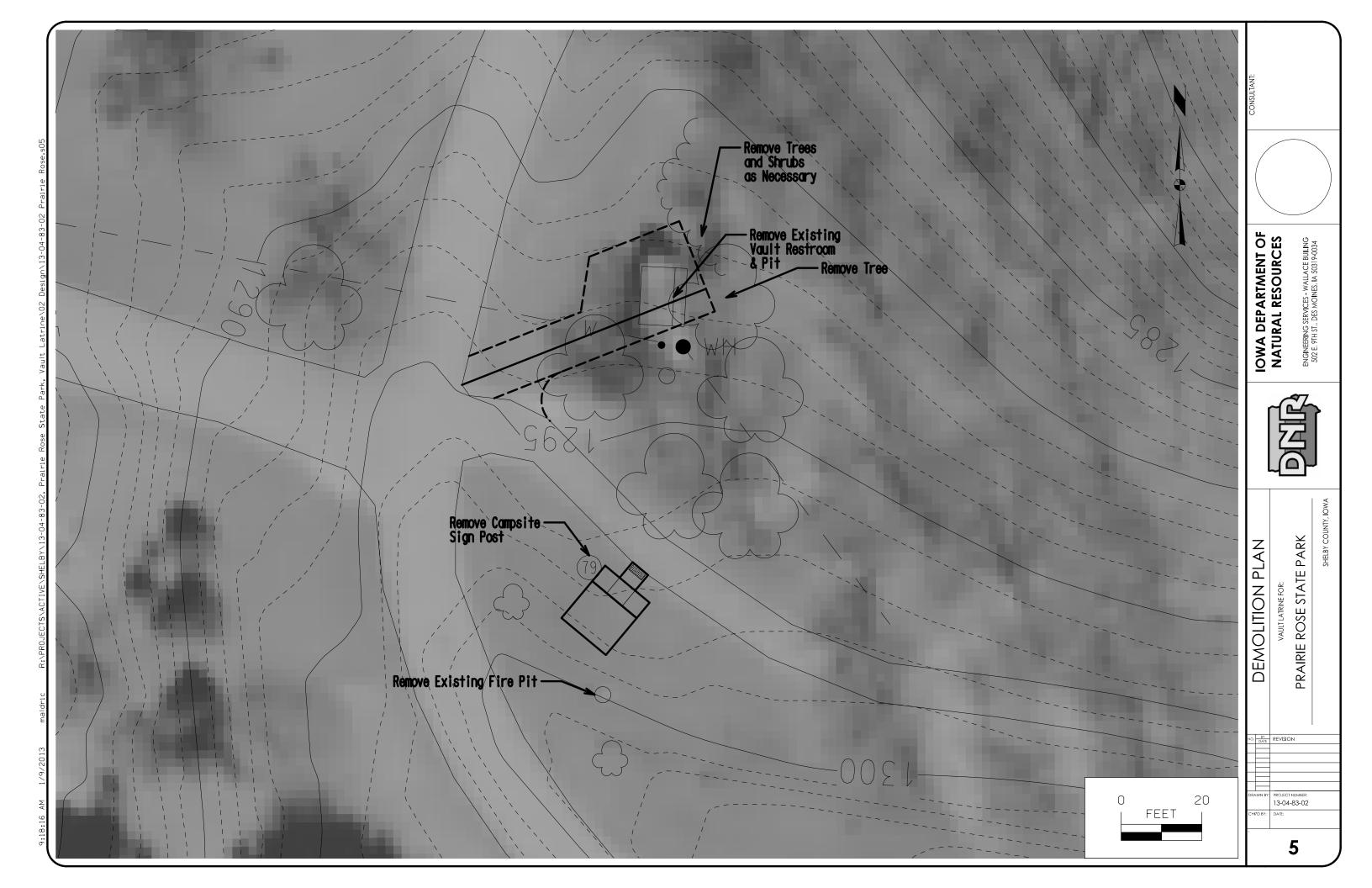
REVISION

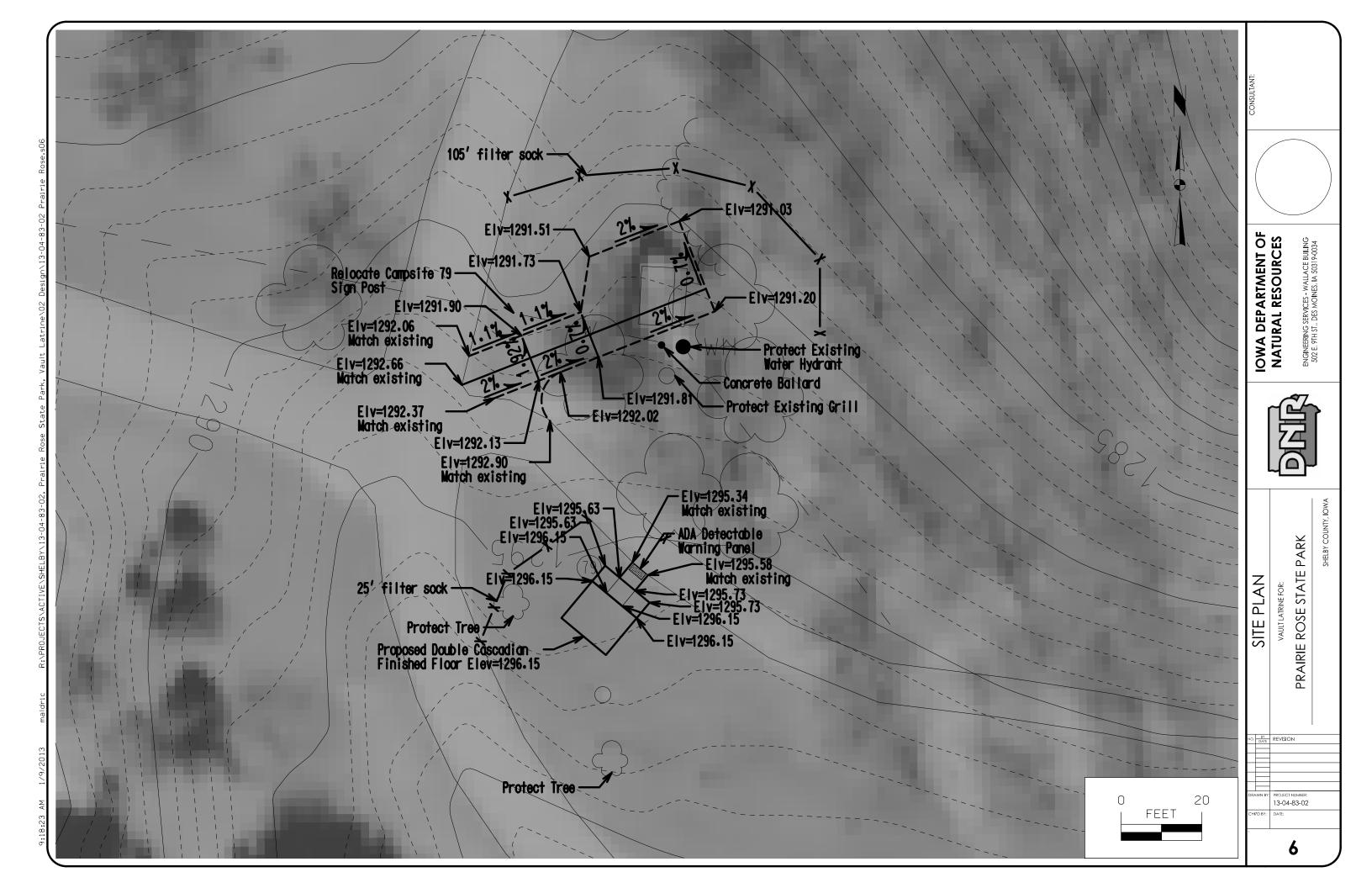
BY
REVISION

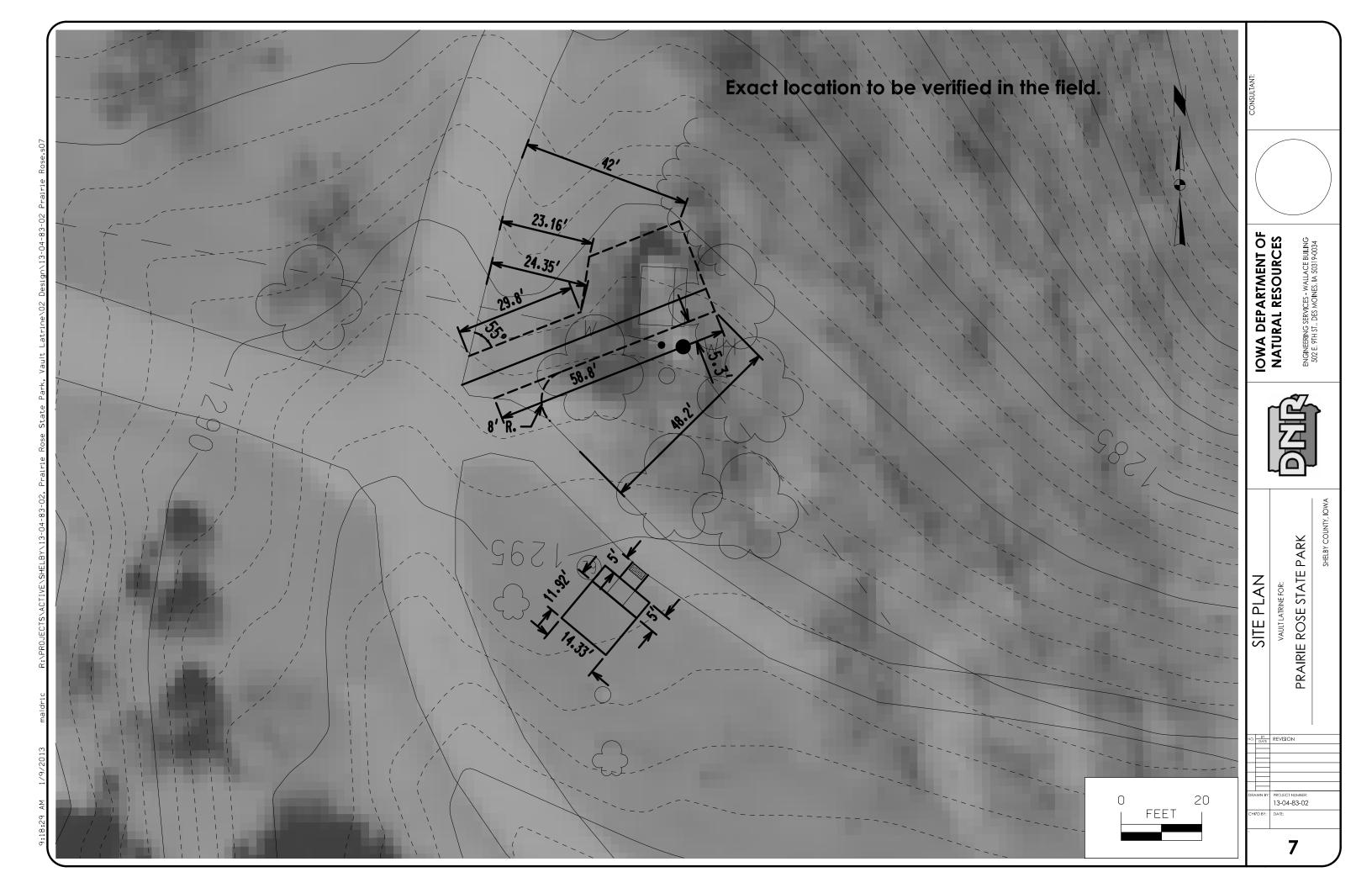
PROJECT NUMBER:
13-04-83-02



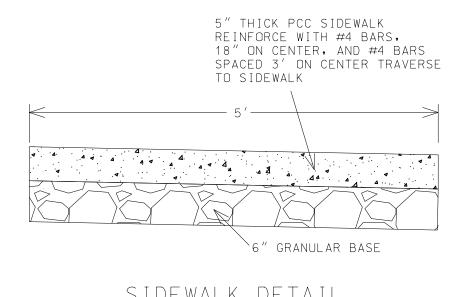




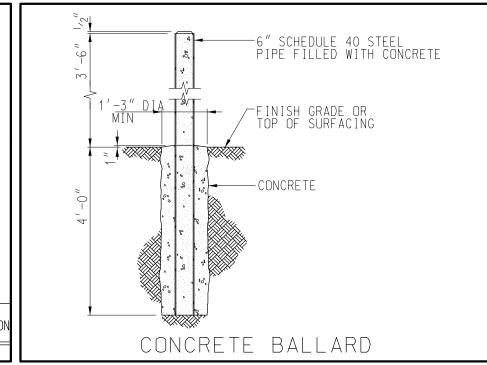


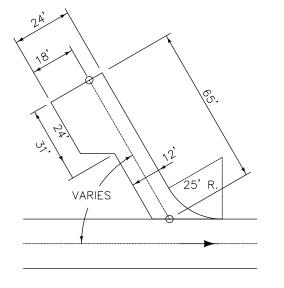


- 1 Install a 24" wide (min) strip of detectable warnings at the back of the curb. Extend the detectable warnings across the full width of the ramp.
- 2 Provide a minimum of 6" of concrete below the detectable warning panel.
- 3 Landing: Maximum slope of 2% in any direction.









BACK-IN SITE

LAYOUT

NOTE: SLOPE NOT TO EXCEED 2% IN ANY DIRECTION ON CAMP PADS UNLESS OTHERWISE DIRECTED BY THE DNR INSPECTOR. SHAPE CAMP PADS WITH A 25' RADIUS AT THE INTERSECTION WITH THE ROADWAY WHEREVER POSSIBLE.

IOWA DEPARTMENT OF NATURAL RESOURCES



PARK

PRAIRIE ROSE STATE

GENERAL DETAILS

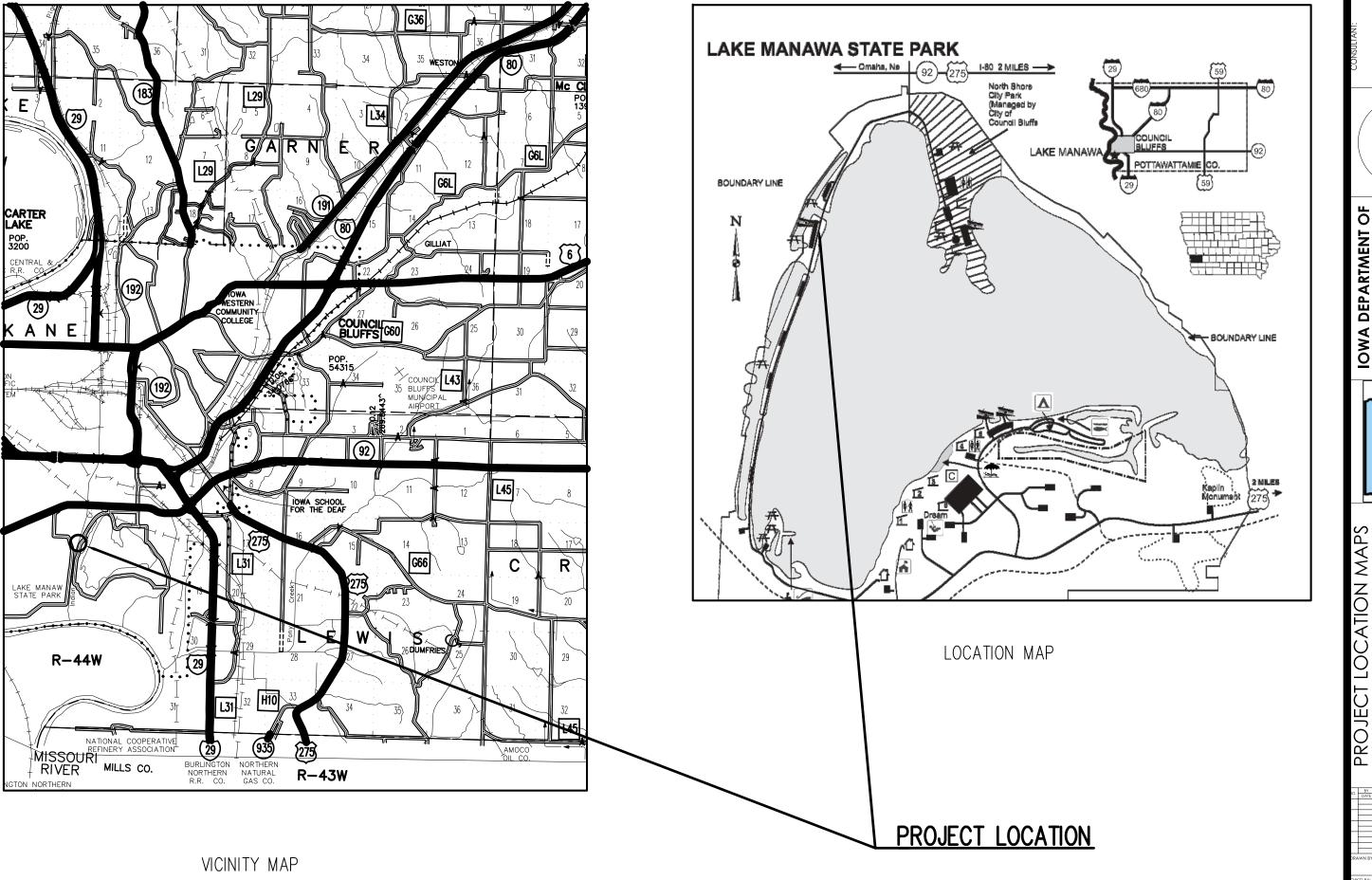
o. BY REVISION 13-04-83-02

8

GRADE POINT uBack of Curbuif required Note: Normal 2% SLOPE Slope G may be variable. 5" PCC placed on-6" Class "A" Crushed Stone Reinforce concrete with #4 bars, 18" on center longitudinally, and #4 bars spaced 3' on center traverse to sidewalk Cross slope transition at 1% per foot or less TYPICAL SIDEWALK DETAILS

 (B) (A)STATION TO STATION SIDE CONSTRUCTION Feet Feet Feet ALL 2 5

ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034



IOWA DEPARTMENT OF NATURAL RESOURCES

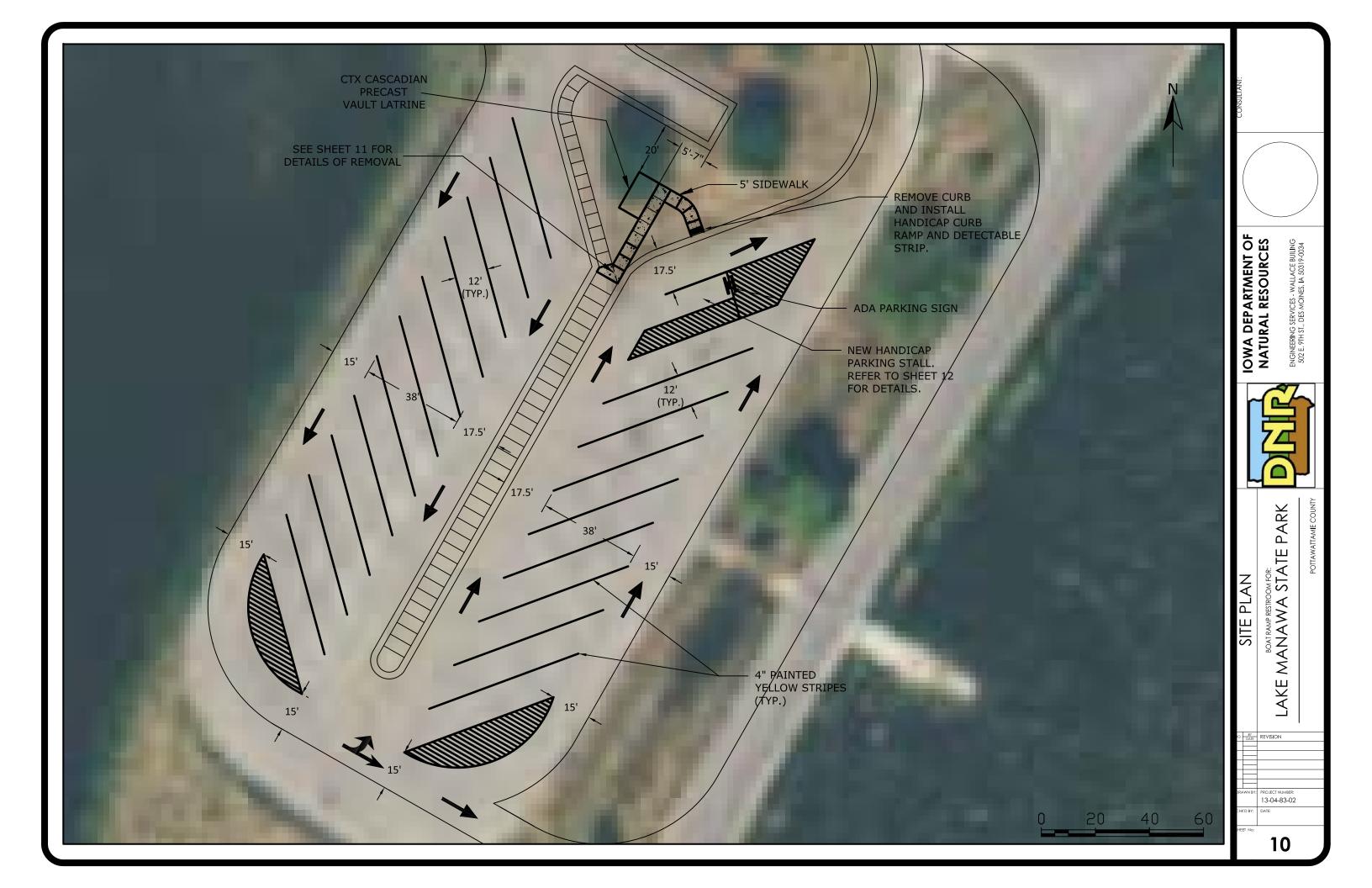
ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

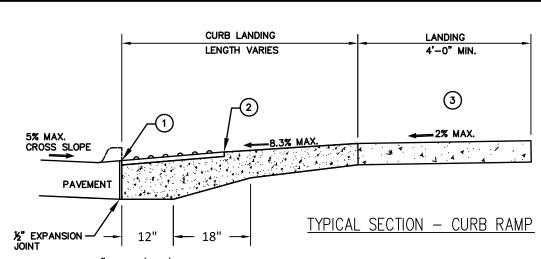
PARK

BOATRAMP RESTROOM FOR: LAKE MANAWA STATE

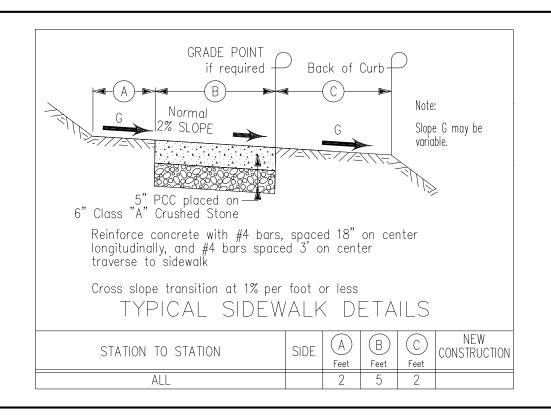
REVISION

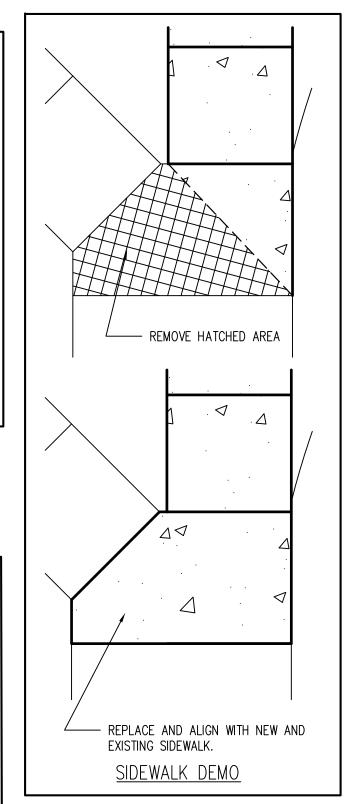
13-04-83-02

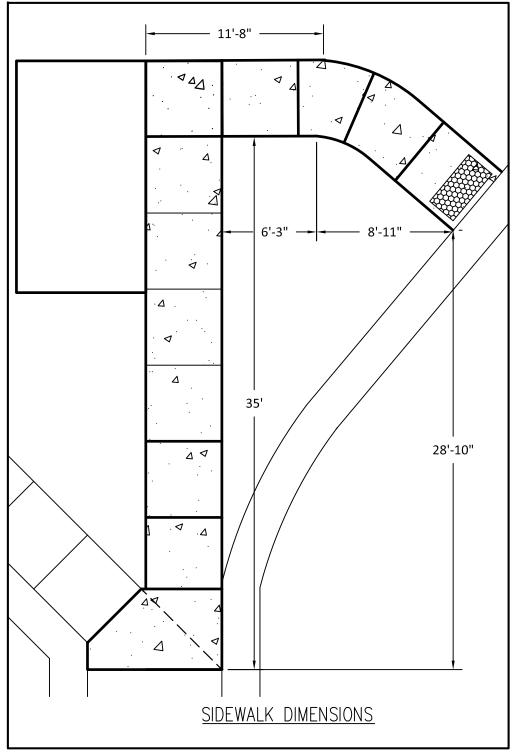




- 1. INSTALL A 24" WIDE (MIN.) STRIP OF DETECTABLE WARNINGS AT THE BACK OF THE CURB. EXTEND THE DETECTABLE WARNINGS ACROSS THE FULL WIDTH OF THE RAMP.
- 2. PROVIDE A MINIMUM OF 6" OF CONCRETE BELOW THE DETACHABLE WARNING PANEL.
- 3. LANDING: MAXIMUM SLOPE OF 2% IN ANY DIRECTION.





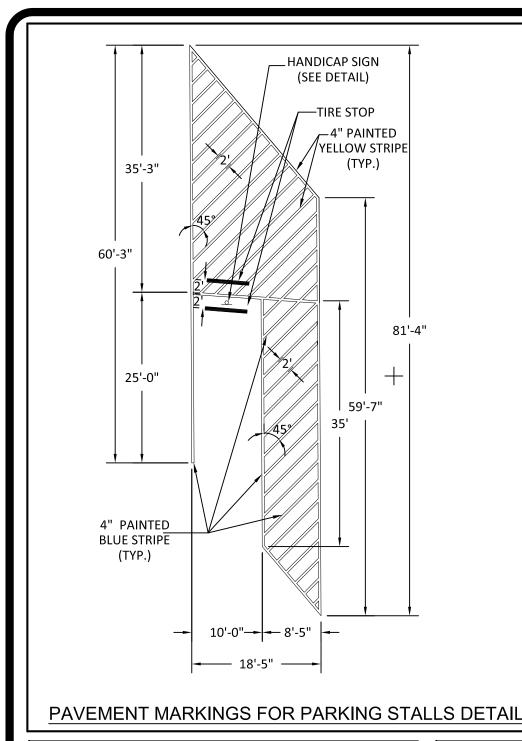


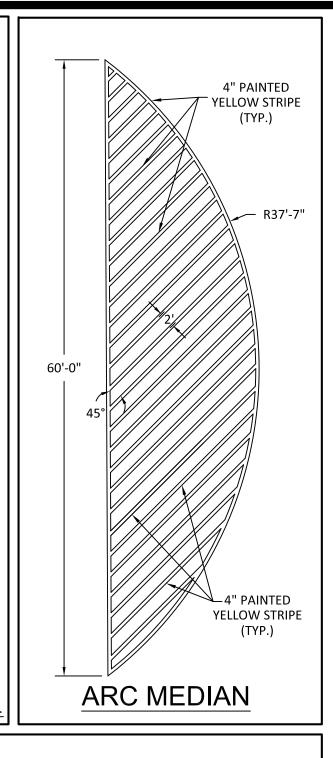
GENERAL NOTES

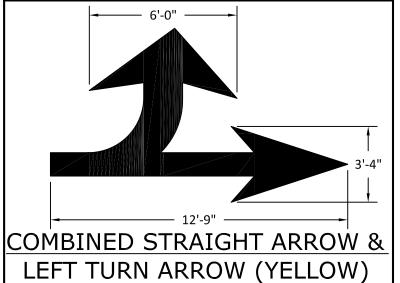
SIDEWALK:

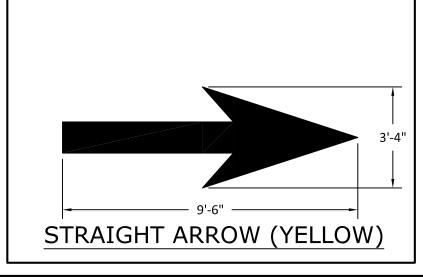
1. CROSS—HATCHED AREA OF THE EXISTING SIDEWALK SHALL BE REMOVED AND REPLACED.

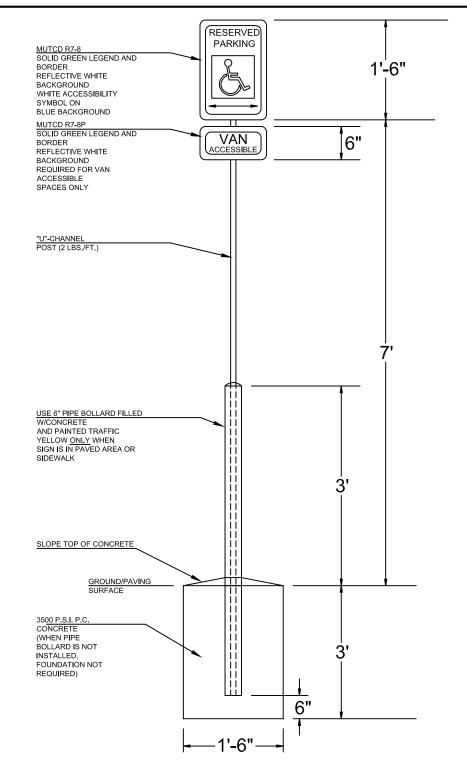
IOWA DEPARTMENT OF NATURAL RESOURCES ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034 PARK NOTES STATE SIDEWALK DETAILS & BOAT RAWP RESTROY
LAKE MANAWA REVISION 13-04-83-02









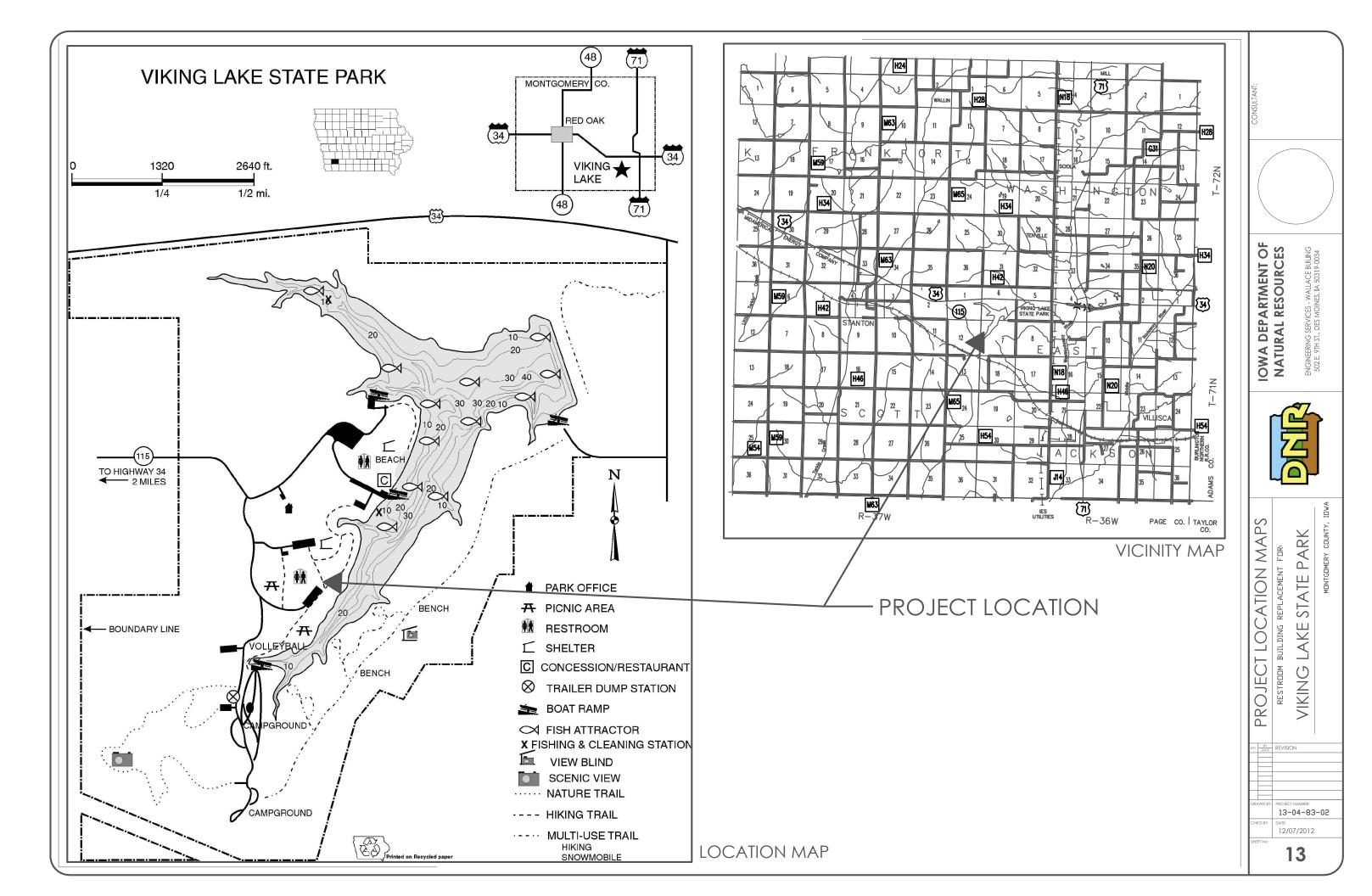


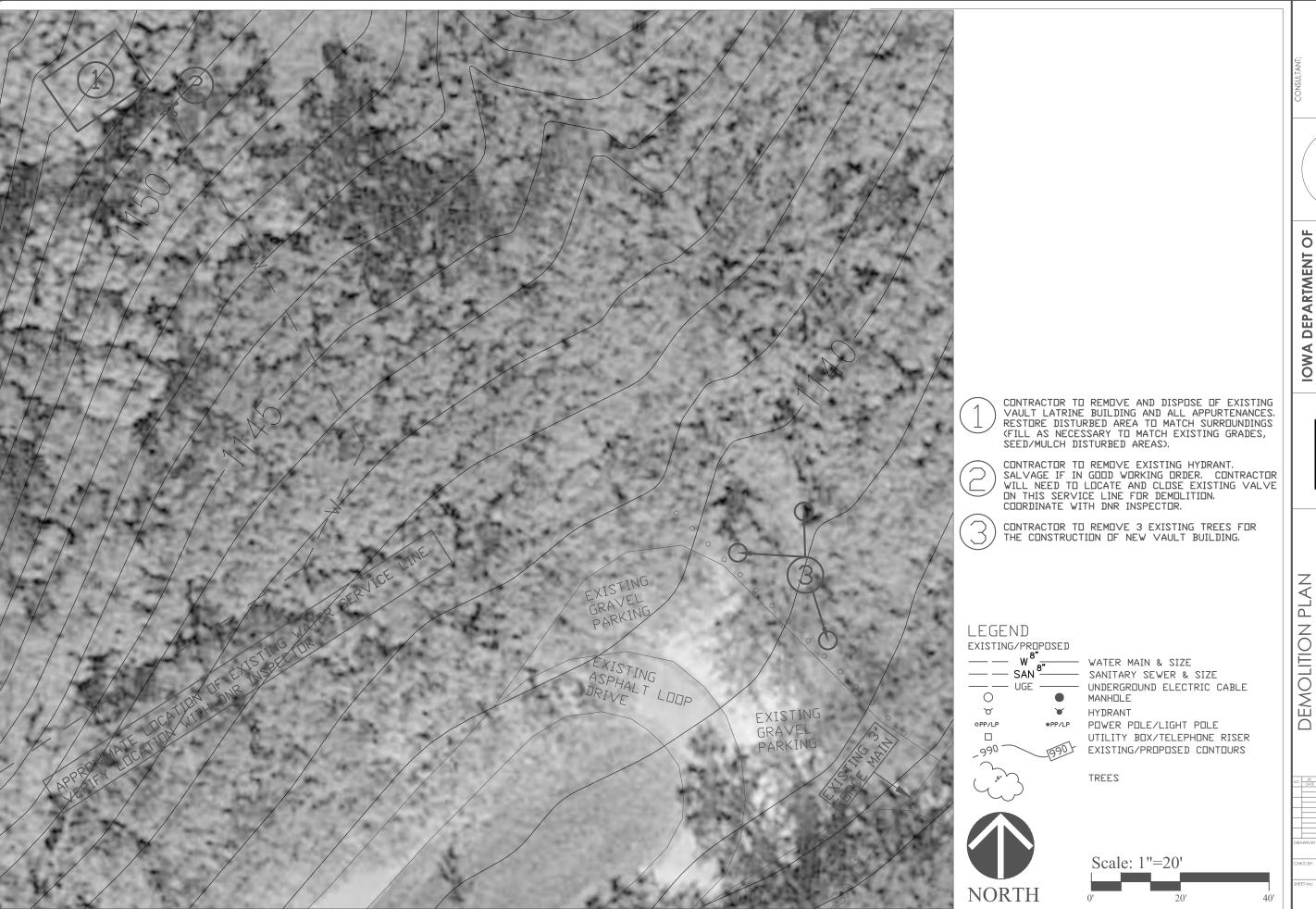
- NOTES
 1. 12"x18" ACCESSIBILITY SIGN (R7-8) SHALL BE MOUNTED 7" FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE.
 MOUNTING HEIGHT MAY BE REDUCED TO 5" IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT
- MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
- 3. SIGNAGE SHALL BE INSTALLED IN FRONT OF EACH ACCESSIBLE SPACE, CENTERED ON THE WIDTH OF THE SPACE.
 4. REFER TO AMERICANS WITH DISABILITIES ACT AND ARCHITECTURAL BARRIERS ACT ACCESSIBILITY GUIDELINES (ADAAG), LATEST EDITION, FOR REQUIRED NUMBER OF ACCESSIBLE SPACE. PER ADAAG, ONE VAN ACCESSIBLE SPACE SHALL BE PROVIDED, MINIMUM, WITH ADDITIONAL VAN ACCESSIBLE SPACES PER ADAAG REQUIREMENTS THE MUTCD AND ADAAG.

HANDICAP SIGN DETAIL

IOWA DEPARTMENT OF NATURAL RESOURCES

12-04-83-02







IOWA DEPARTMENT OF NATURAL RESOURCES

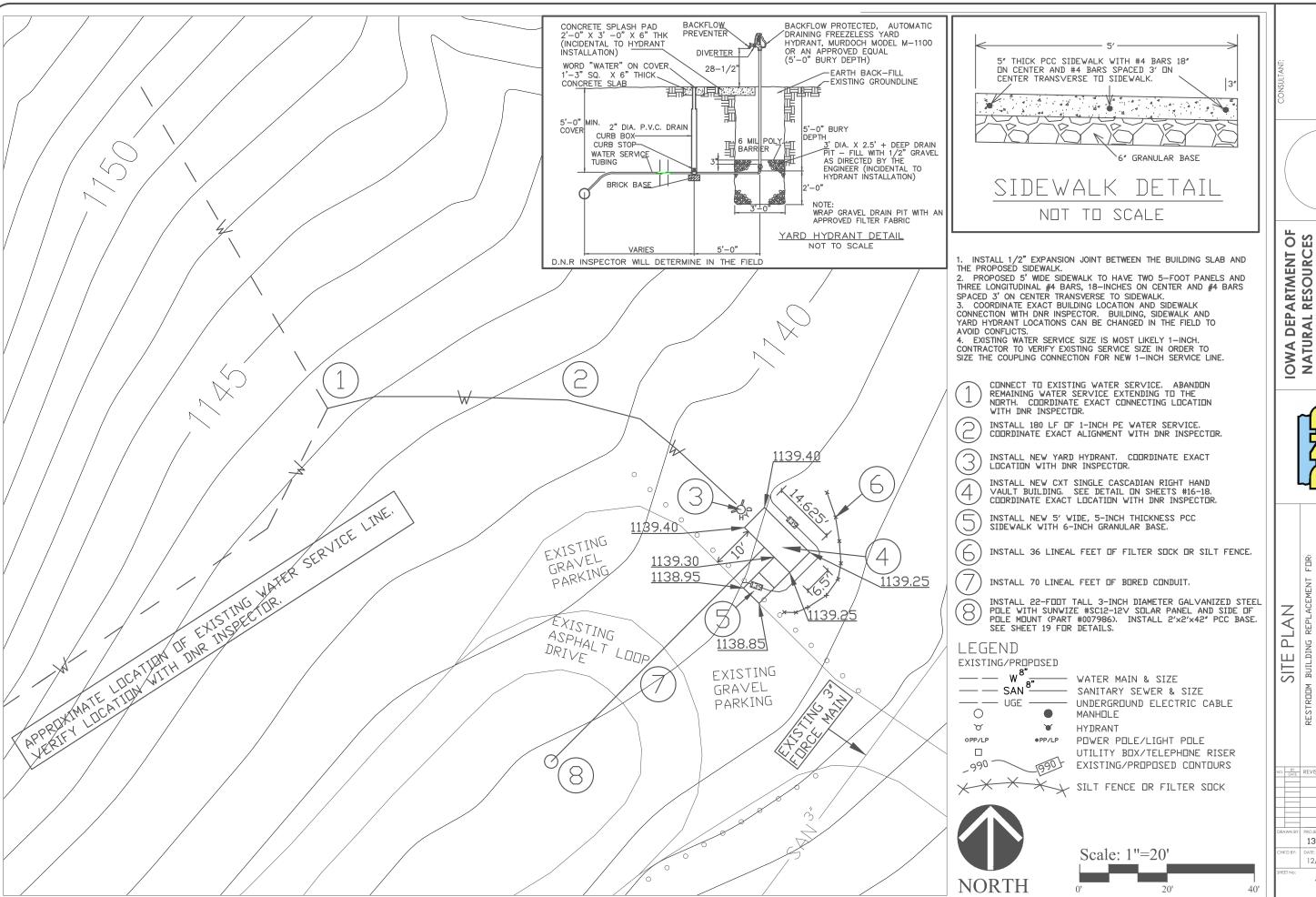


ARK Δ.

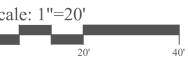
STATE LAKE VIKING

. BY REVISION

13-04-83-02 12/07/2012







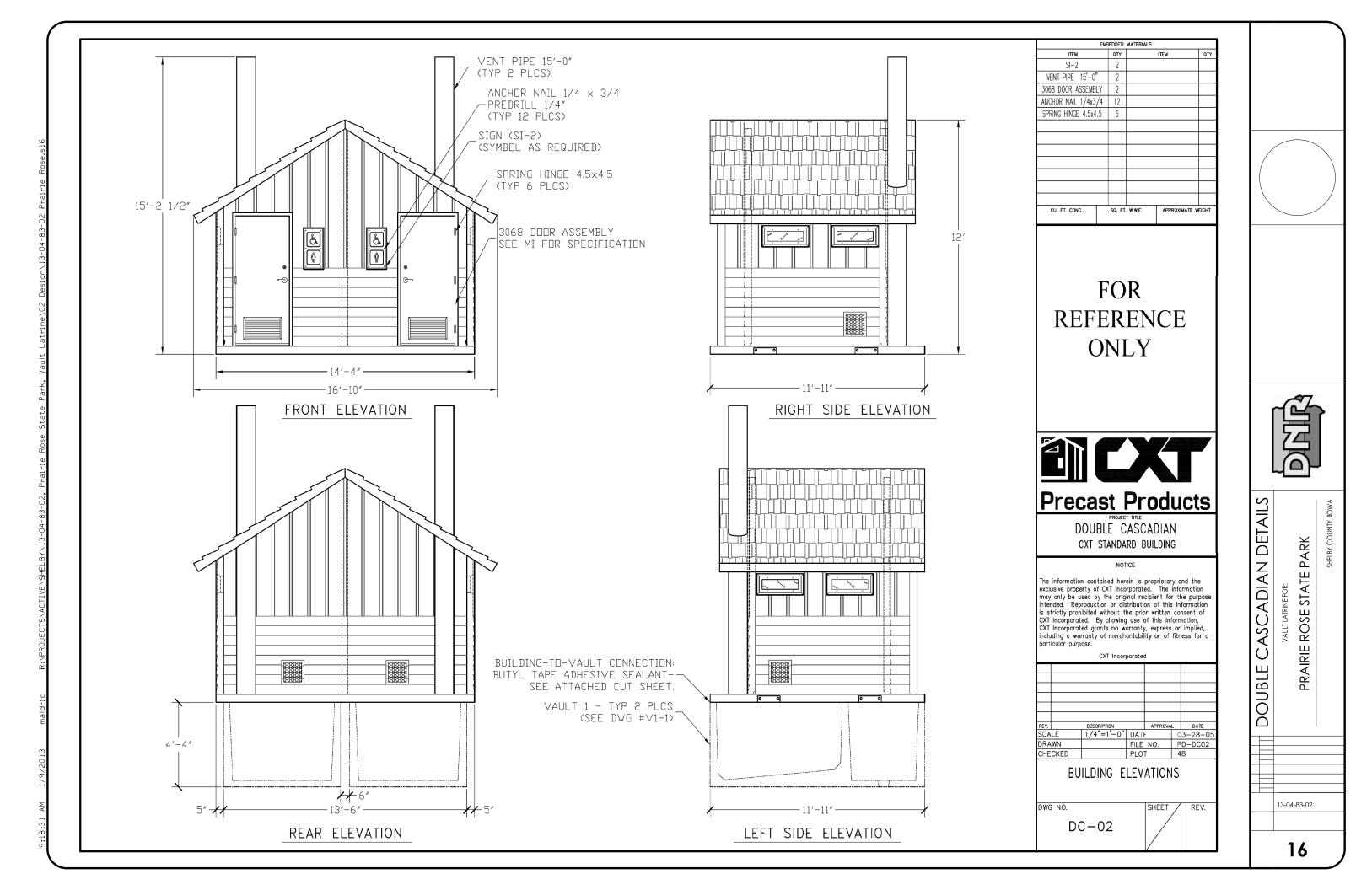
ICES - WALLACE B MOINES, IA 50319 SERVI ERING S 9TH ST.,

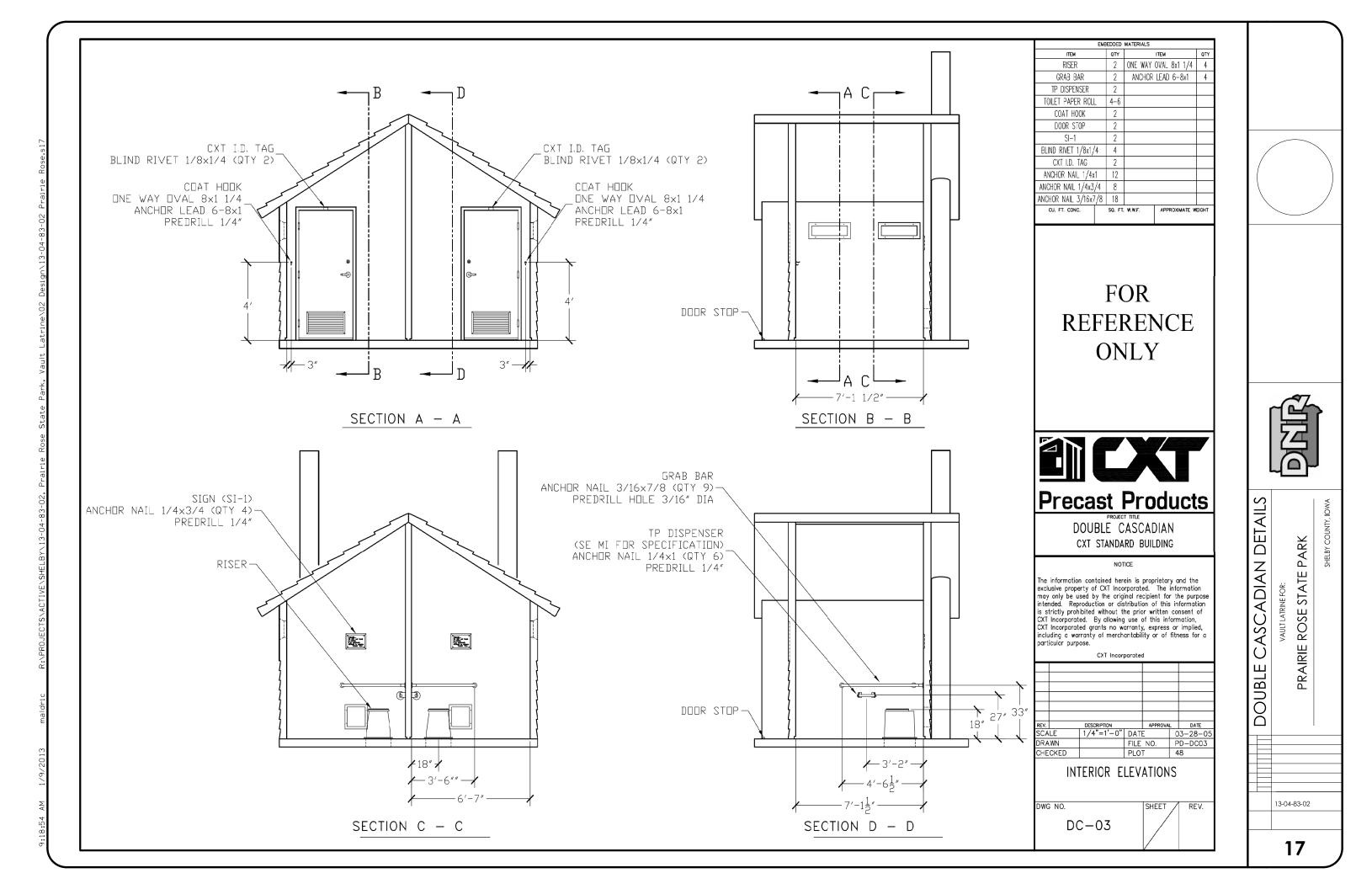


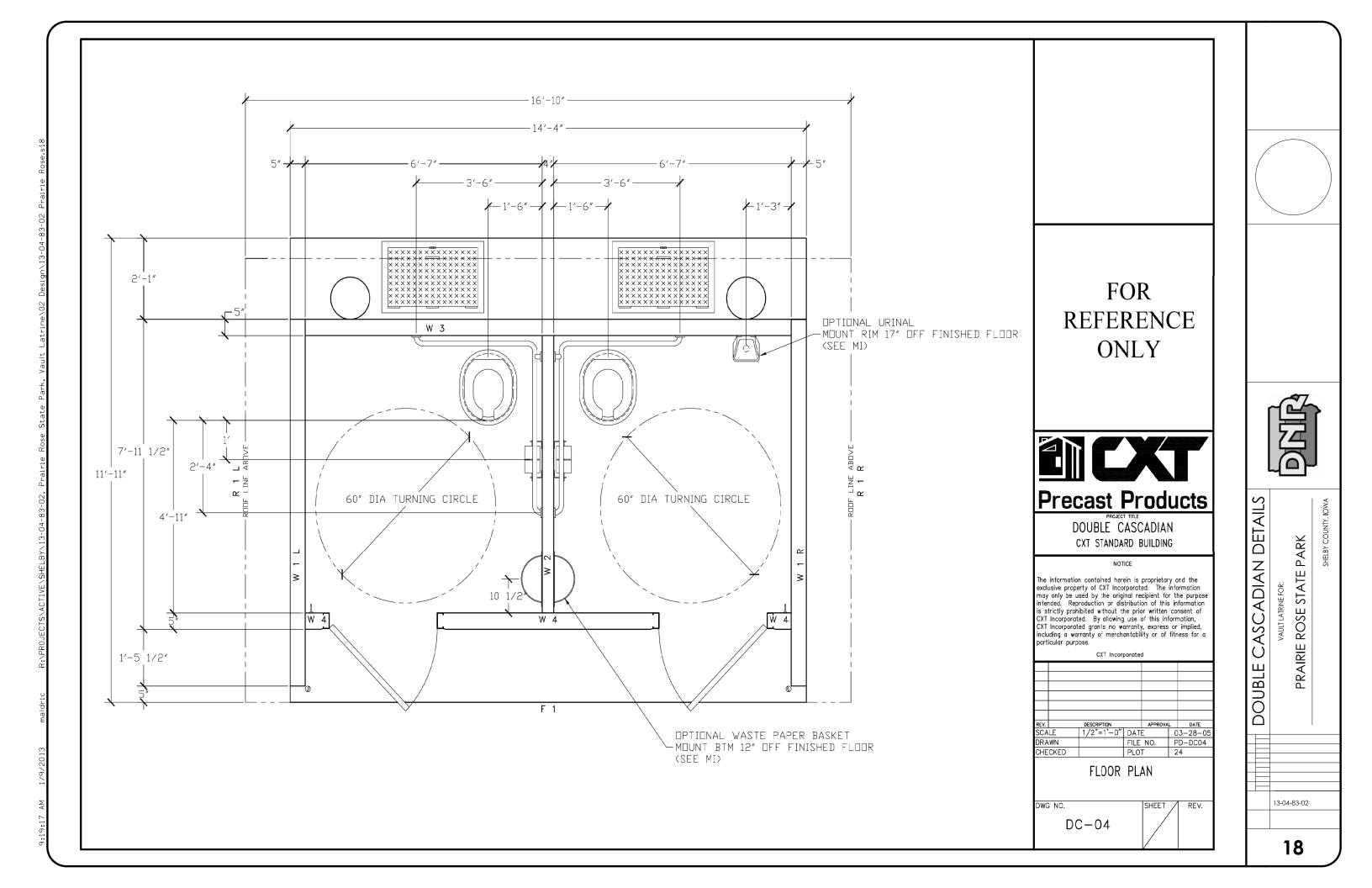
R $\overline{<}$ \Box Ш \triangleleft ST \overline{A} $\overline{\leq}$ VIKING

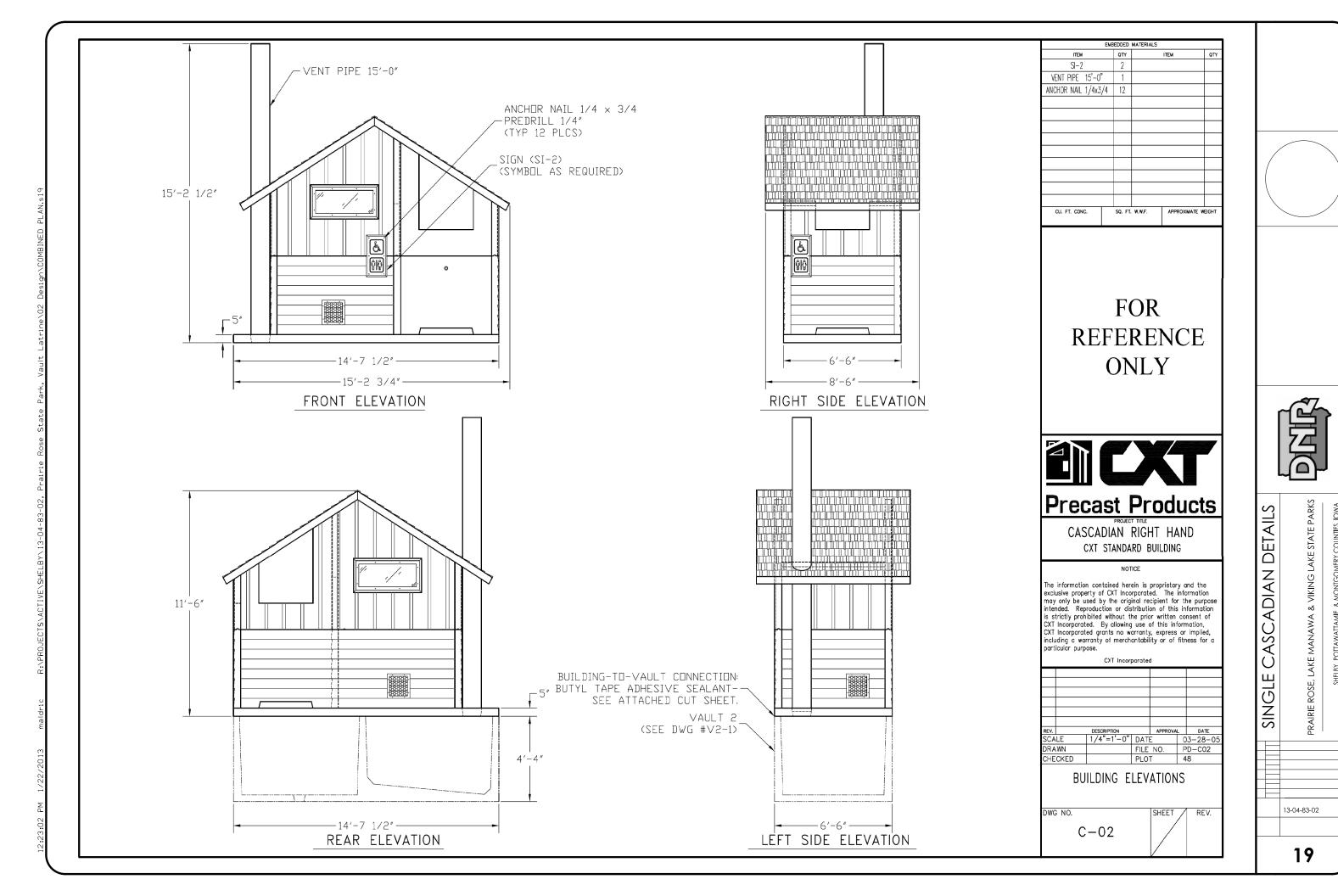
REVISION 13-04-83-02

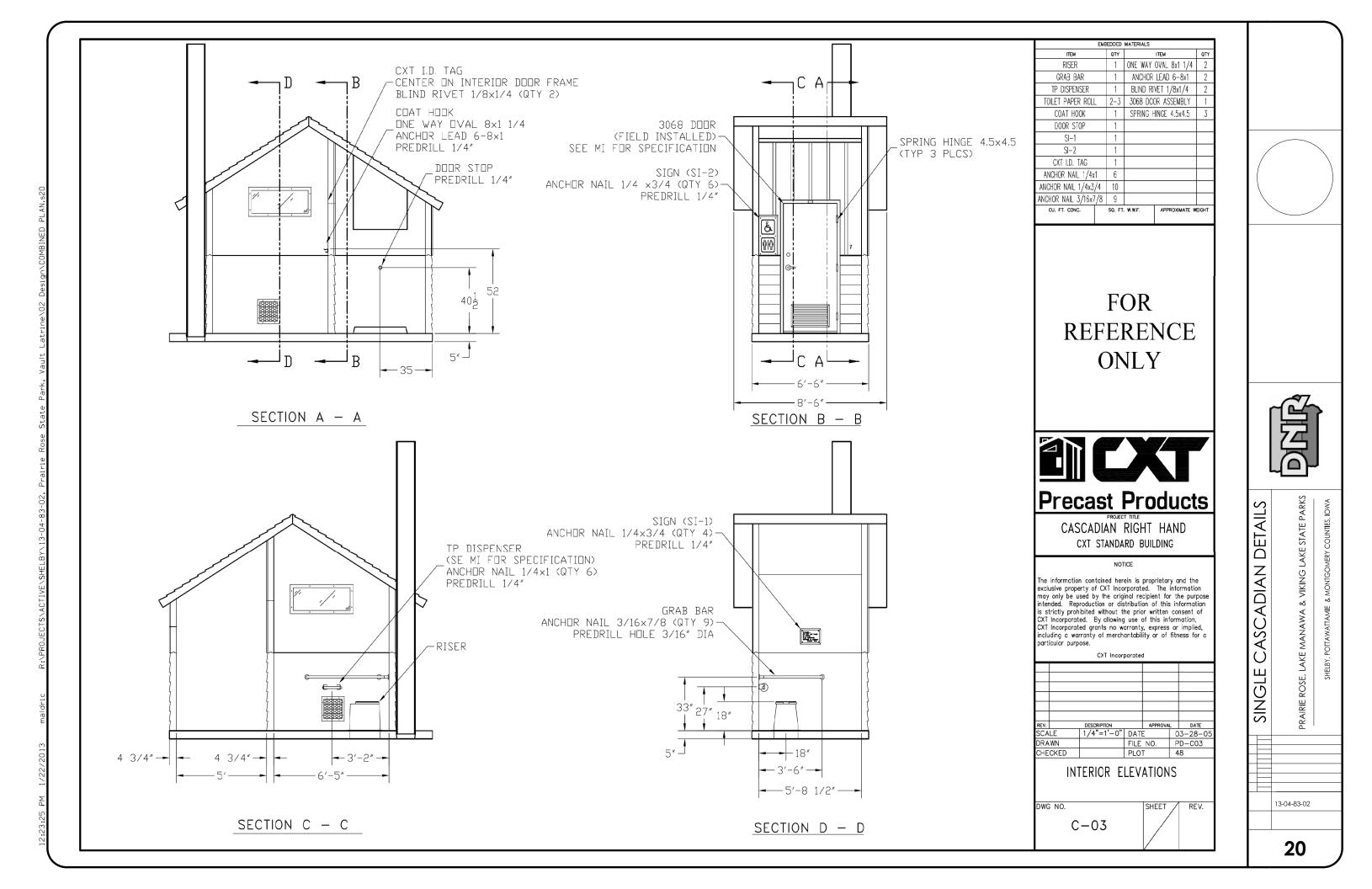
12/07/2012

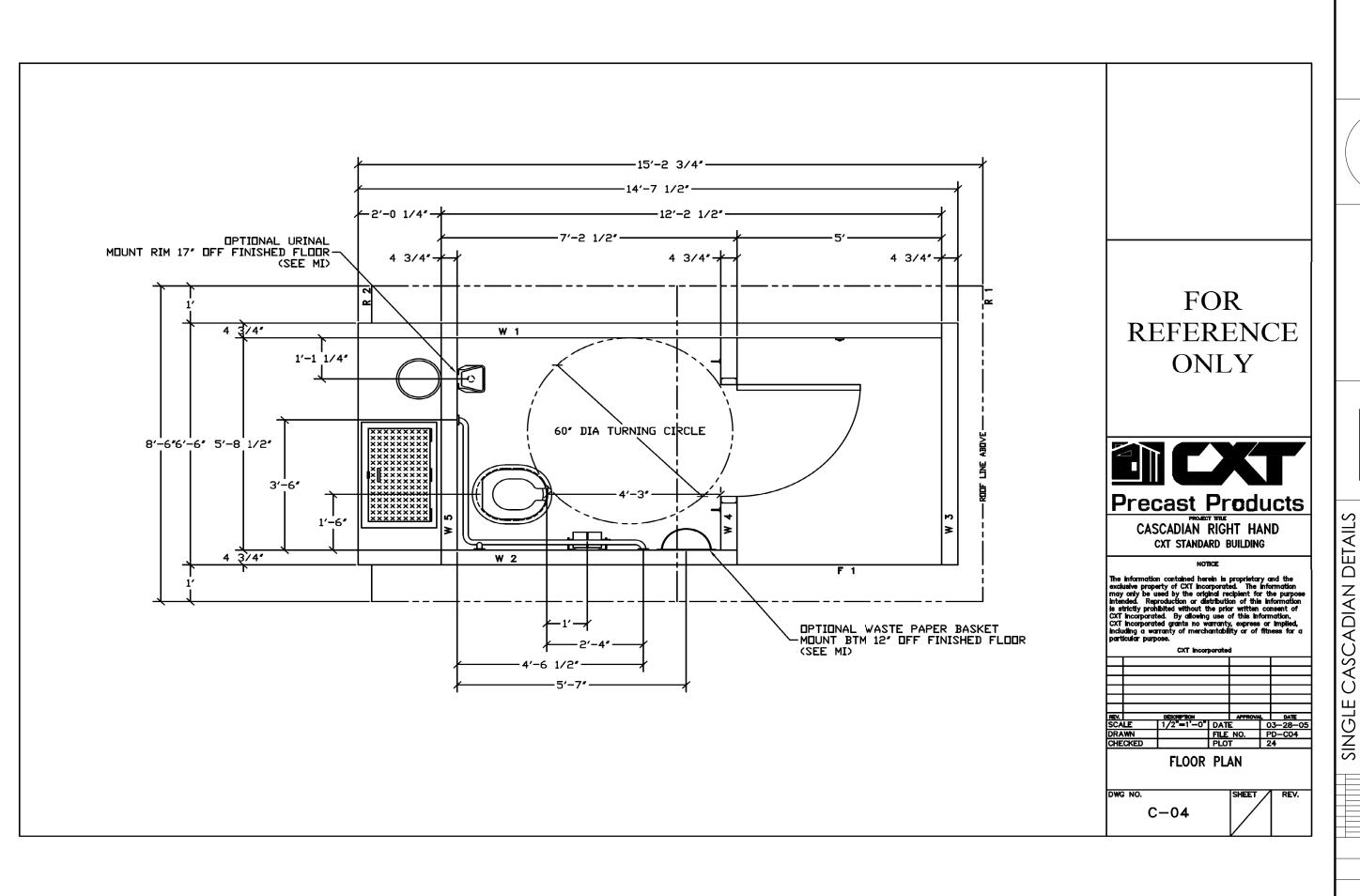












13-04-83-02

